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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,994	11/05/2003	Michael Mallary	3123-529(16420-02116)	6624

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EXAMINER

TUPPER, ROBERT S

ART UNIT	PAPER NUMBER
2627	

DATE MAILED: 05/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/701,994

Applicant(s)

MALLARY ET AL.

Examiner

Robert S. Tupper

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 3-7, 14-16, 19-29, and 36-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-13,17,18,30-35,39 and 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

1. Applicant's election with traverse of the species of figure 3 in the reply filed on 2/21/06 is acknowledged. The traversal is on the ground(s) that the same field of search and classification would apply to both species. This is not found persuasive because it would involve an undue burden to search the various different structures involved for the different species.

The requirement is still deemed proper and is therefore made FINAL.

2. Applicant states that claims 1-15, 17-16, and 28-40 read on the elected species. The Examiner does not agree as to claims 3-7, 14, 15, 19-29, and 36-38.

Claims 3 and 19 recite that the write element is connected to one of the shields of the read element. The species of figure 3 has a write shield that is separate from the read shields. These claims are actually drawn to the species of figure 2.

Claims 14, 25, and 36 recite that a layer of material is located between the write pole and the substrate. The species of figure 3 is disclosed as having the write pole in directly in contact with the substrate.

Claims 15, 26, and 37 recite that an electrically conductive material is located between the write pole and the substrate. This configuration, which is referred to on page 16 lines 18-19 of the specification, is not shown in the drawings. This would constitute yet another pair of species.

3. Claims 3-7, 14-16, 19-29, and 36-38 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no

allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 2/21/06.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the layer of electrically conductive material located between the write pole and the substrate recited in claims 15, 26, and must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites the limitation "the magnetoresistive sensor" in line 4. There is insufficient antecedent basis for this limitation in the claim.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 8-11, 17, 18, 30-33, 39, and 40 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by GAGE et al (6,762,977).

Note figure 4. GAGE et al shows a slider with a perpendicular recording head for use with a disk drive, the head being mounted on a slider/substrate (24), includes a write head with a write pole (42), a magnetic via (not numbered), and a write shield (44), and a read head with first and second read shields (50,52), and an MR sensor (48) between the read shields (re claims 1 and 30). The write head has a pancake coil (40)

around the magnetic via section (re claims 2, 9, 10, 31, and 32). There are no other write coils (re claims 11 and 33). Note column 2 lines 57-59 states that the system is used with perpendicular recording films. These inherently include the "first layer for recording data" and the "second layer that is a soft underlayer (SUL) to return magnetic flux" as recited in claims 1 and 30.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 12 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over GAGE et al (6,762,977).

GAGE et al shows a slider with a perpendicular recording head substantially as claimed where the write head is mounted closest to the slider substrate.

GAGE et al differs in not specifying the distances between the write pole, the write shield, and the soft underlayer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the system of GAGE et al to have the listed distance relationship. The motivation is as follows: these would have been the obvious result of routine experimentation and optimization.

11. Claims 1, 2, 8-11, 13, 17, 18, 30-33, 35, 39, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over LAIRSON et al (5,822,153).

Note figure 1. LAIRSON et al shows a slider with a perpendicular recording head for use with a disk, the head being mounted on a slider/substrate (27), a write head (30) with a write pole (50), a magnetic via (not shown), and a write shield (48), and a read head with first and second read shields (60,62), and an MR sensor (33) between the read shields (re claims 1 and 30). The write head has a pancake coil (46). There are no other write coils.

Concerning claims 1 and 30, LAIRSON et al differs specifying the nature of the recording medium. The Examiner takes Official Notice that perpendicular recording mediums include first and second layers as recited in these claims. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize such well known perpendicular recording mediums in the system of LAIRSON et al which calls for perpendicular recording.

Concerning claim 30, LAIRSON et al differs in not showing the rear part of the head, and thus not illustrating how the write pole and write shield are connected. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the listed "via" to connect the write pole and write shield in LAIRSON et al. The motivation is as follows: it must be noted that all head cores have some core section that connects the poles to make a complete magnetic circuit. One of ordinary skill in the art would provide such a "via" where none was illustrated.

Concerning claims 2, 9, and 31, LAIRSON et al differs in not showing the rear part of the head, and thus not illustrating the placement of the coil relative to the rear portion of the core. It would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the rear of the LAIRSON et al head as recited in these claims. The motivation is as follows: wrapping the coil around the rear "via" section of the core is an extremely old and well known configuration. One of ordinary skill in the art would use any such known configuration where none was shown.

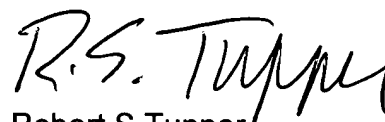
Concerning claims 13 and 35, LAIRSON et al differs in not locating the write pole in direct contact with the slider/substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the head of LAIRSON et al to have the write pole in direct contact with the slider/substrate. Whether the pole is in direct contact or not has no operational significance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert S. Tupper whose telephone number is 571-272-7581. The examiner can normally be reached on Mon - Fri, 6:30 AM - 4:00 PM (first Fri off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Robert S Tupper
Primary Examiner
Art Unit 2627

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